Unpacking

SUNNY CENTRAL 500HE-US

Technical Description

SC500HE-US_Aus-TUS100710 | 98-4025910 | Version 1.0

US

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IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

This manual contains important instructions for Sunny Central 500HE-US PV inverter, that must be followed during installation and maintenance of the PV inverter.

The Sunny Central 500HE-US is designed and tested according to international safety requirements, but as with all electrical and electronic equipment, certain precautions must be observed when installing and/or operating the Sunny Central 500HE-US. To reduce the risk of personal injury and to ensure the safe installation and operation of the Sunny Central 500HE-US, you must carefully read and follow all instructions, cautions and warnings in this technical description.

Warnings in this document

A warning describes a hazard to equipment or personnel. It calls attention to a procedure or practice, which, if not correctly performed or adhered to, could result in damage to or destruction of part or all of the SMA equipment and/or other equipment connected to the SMA equipment or personal injury.

DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to personal injury.

Other symbols in this document

In addition to the safety and hazard symbols described on the previous pages, the following symbol is also used in this technical description:

Information

This symbol accompanies notes that call attention to supplementary information that you must know and use to ensure optimal operation of the system.

General warnings

General warnings

All electrical installations must be done in accordance with the local codes and *National Electrical Code*® ANSI/NFPA 70.

The Sunny Central 500HE-US contains no user-serviceable parts except for the fans on the bottom of the enclosure and the filters behind the fans as well as the handle covers on the sides of the unit. For all repair and maintenance, always return the unit to an authorized SMA Service Center.

Before installing or using the Sunny Central 500HE-US, read all of the instructions, cautions, and warnings on the Sunny Central 500HE-US in this technical description.

Before connecting the Sunny Central 500HE-US to the power distribution grid, contact the local power distribution grid company. This connection must be made only by qualified personnel.

Wiring of the Sunny Central 500HE-US must be made by qualified personnel only.

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1 Notes on this manual

This manual describes the unpacking of the Sunny Central 500HE-US. Keep this manual in a convenient place for future reference.

1.1 Area of validity

This manual is valid for the Sunny Central 500HE-US.

1.2 Target group

This manual is for qualified personnel only. Qualified personnel have received training and have demonstrated skills and knowledge in the construction and operation of the device. Qualified personnel are trained to deal with the dangers and hazards involved in installing electric devices.

1.3 Syntax

In this document the Sunny Central 500HE-US is referred to in the following as Sunny Central.

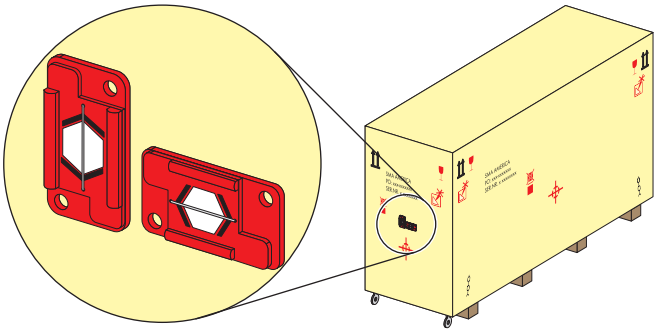
In this document SMA America Production, LLC is referred to in the following as SMA.

2 Delivery of the Sunny Central

2.1 Checking for transport damage

In order to determine any damage that may have occured during transport, two impact indicators are affixed to the transport crate of the Sunny Central. The indicators show whether the Sunny Central was subjected to an impact during transport which may have damaged it.

Upon delivery, check the impact indicators. How the impact indicator shows an improper transport of the transport crate is either described on the impact indicator itself or in a manual on the impact indicator included in the delivery.



2.2 Packing list

The Sunny Central is delivered in a wooden crate. The crate contains both cabinets of the Sunny Central. The accessories kit is in the cabinets, as are the components which were dismounted for transport. This chapter lists the content of the accessories kit and the components delivered.

2.2.1 Accessories kit

The accessories kit is packed in a box. The description of the box is SC-500HE-US-BEIP1.

SC-500HE-US-BP1

Number	Description
1	Hexagonal wrench 4 mm
2	Non-woven abrasive
1	Sunny Central 500HE-US installation guide
1	Sunny Central 500HE-US user manual
2	Sunny Central 500HE-US wiring diagram
1	Sunny Central 500HE-US commissioning report
	Packaging material

2.2.2 Components included in delivery

Number	Description
1	Back plinth panel Power Cabinet
1	Front plinth panel Power Cabinet
1	Side panel Power Cabinet
1	Back plinth panel Control/Interface Cabinet
1	Front plinth panel Control/Interface Cabinet
1	Air baffle with middle wall
1	Accessories kit carton
1	Display cover

2.3 Storage

Do not store the Sunny Central in the crate for a period longer than 6 months. After 6 months, the Sunny Central is no longer protected against moisture penetration.

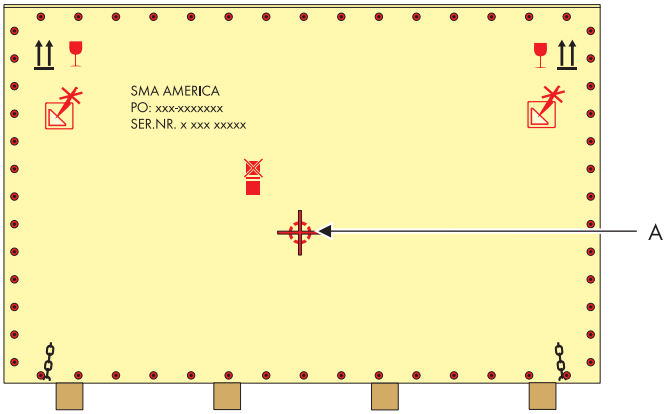
3 The transport crate

3.1 Parts of the transport crate and center of gravity

The transport crate is made up of 6 parts.

- Front panel
- Back panel
- Left panel
- Right panel
- Base
- Roof

You can identify the front/back wall by the symbol for the center of gravity (A). The center of gravity of the crate is not located in the middle of the crate. The symbol for the center of gravity (A) marks the position of the center of gravity of the crate.



3.2 Symbols on the transport crate

There are following symbols on the transport crate:

Symbol	Explanation
	The crate must be transported with this side to the top.
	The contents of the crate are fragile.
	Do not use sharp tools to open the crate.
	Do not place anything on the crate.
	Center of gravity of the crate
	Position for transport with a crane.

3.3 Technical Data of the Transport Crate

Weight	5025 lbs. (2280 kg)
Width x Height x Depth	9 ft. 6 $^{3}/_{16}$ in. x 3 ft. 9 $^{9}/_{32}$ in. x 8 ft. 5 $^{37}/_{64}$ in. (2900 mm x 1150 mm x 2580 mm)

4 Transport the transport crate

You can transport the crate in 3 different ways:

- Transport with a crane
- Transport with a forklift
- Transport by pulling

The following chapters describe what to take into account during transport.

WARNING

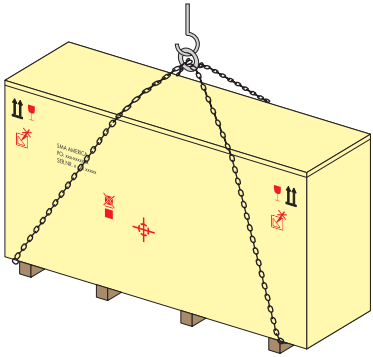
The crate will tilt if transported wrongly.

Serious injuries during transport of the Sunny Central will result.

- Transport the crate as described in this manual.
- Note the center of gravity label on the crate.
- Any equipment used for the transport must be suitable for weight of the crate.
- Do not tilt the crate during transport.

4.1 Transporting the crate with a crane or a forklift

The position for transport with a transport crane is marked on the transport crate (see chapter 3.2 "Symbols on the transport crate" (page 13)). For transport, you can use a crane fork or a burden chain.



1. Push the crane fork, the burden chain or the forklift at the marked positions under the transport crate.
2. Secure the crate against tilting.
3. Transport the crate.

4.2 Transporting the crate by pulling

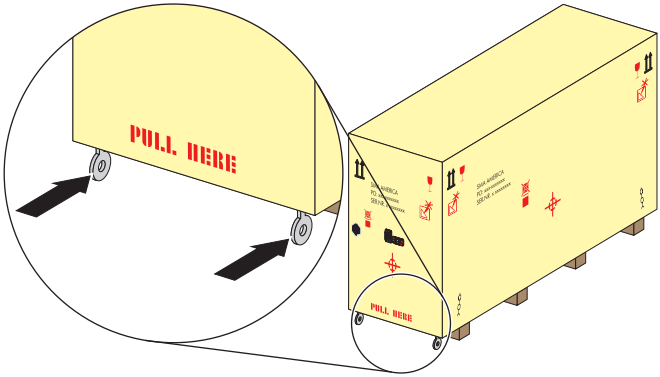
NOTICE

The Sunny Central can be damaged by shock when pulling the crate over uneven ground.

Damage to the Sunny Central will result.

- Do not pull the crate over uneven ground.
- Pull the crate along slowly.

For transporting the crate, there are eyelets underneath the right and left panels.

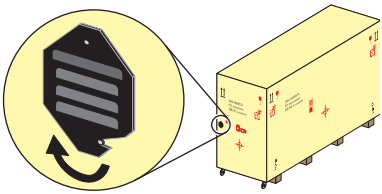


1. Secure the transport hooks on the eyelets.
2. Harness the equipment used for transport.
3. Transport the crate.

5 Unpacking the Sunny Central

The crate is closed using TX screws. On the right side panel of the crate there is a flap behind which is kept a TX bit.

5.1 Preparing the tools

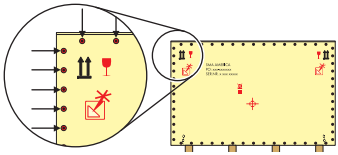


1. Move the flap to the left.
2. Pull out the pouch with the drill bit from the flap.
3. Remove the drill bit from the pouch.
4. Place the drill bit in the drill.

☑ The tool is prepared.

5.2 Removing the transport crate

The screw points on the transport crate are marked in red.



1. Remove the TX screws from the roof.
2. Remove the roof.
3. Remove the TX screws from the back panel.
4. Remove the back panel.
5. Remove the TX screws from the front panel.
6. Remove the front panel.
7. Remove the TX screws from the right panel.
8. Remove the right panel.
9. Remove the TX screws from the left panel.
10. Remove the left panel.

☑ The transport crate has been removed.

5.3 Removing the foil from the Sunny Central

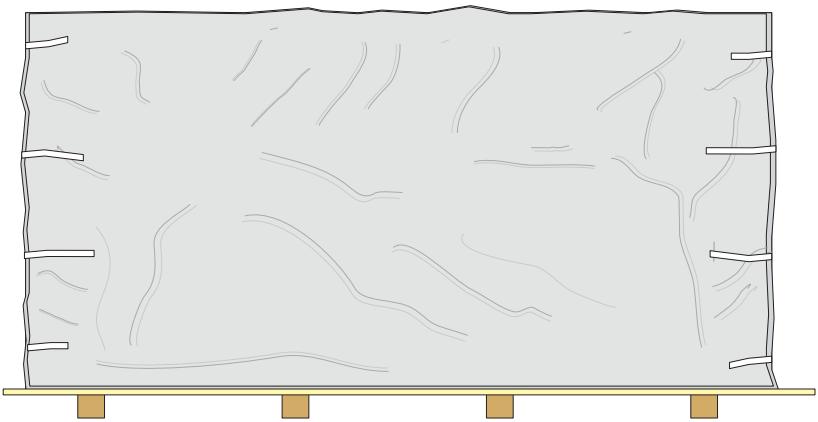
The Sunny Central is packed in an airtight foil.

NOTICE

Open the foil with a sharp object.

Damage to the Sunny Central coating or to the display will result.

- Do not cut deeply into the foil.

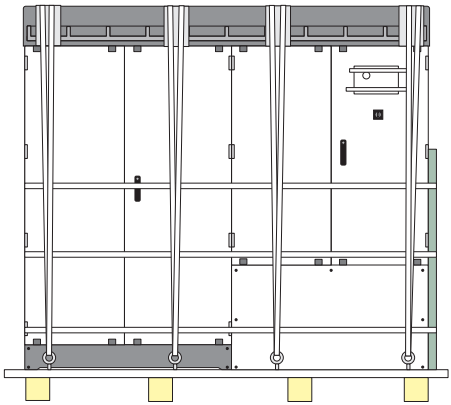


1. Open the foil carefully with a knife or scissors.
2. Remove the foil from the Sunny Central.

☑ The foil has been removed from the Sunny Central.

5.4 Removing the straps from the Sunny Central

The Sunny Central is fixed with straps to the floor of the transport crate.



NOTICE

The straps are under tension and spring back when removed.

Cuts by straps springing back will result.

- Wear personal protective equipment.
- Keep safety distance to the straps.

1. Cut through the straps with a knife.
2. Remove the straps.

WARNING

Danger of crushing.

Damage of the Sunny Central will result.

The cabinets of the Sunny Central are no longer secured and they could fall off the pallet during transport.

- Do not transport the Sunny Central on the pallet.

3. Remove the cardboard which was underneath the straps.
4. Remove the pieces of wood underneath the roof.

☑ The straps have been removed.

5.5 Lifting the Sunny Central off the transport crate floor

WARNING

Danger of crushing. Danger of damage of the Sunny Central.

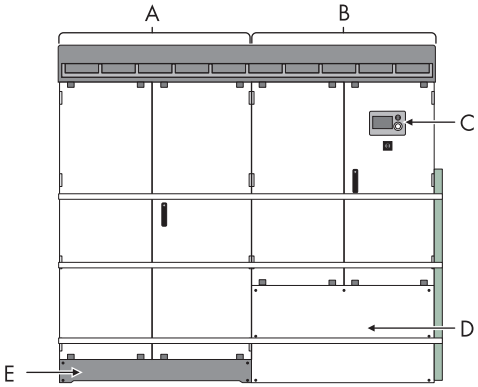
Sunny Central may tip over if improperly transported.

- Transport the Sunny Central as described in the Sunny Central installation guide.

6 Unpacking the components

The components of the Sunny Central are stowed in the Power Cabinet and in the Control and Interface Cabinet. This chapter describes where the components are located, and what must be taken into account when unpacking the components.

Parts of the Sunny Central

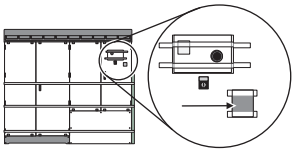


Position	Name
A	Power Cabinet
B	Control and Interface Cabinet
C	Display
D	Front plinth panel Control and Interface Cabinet
E	Front plinth panel Power Cabinet

6.1 Position of the keys and of the hexagonal wrench

The keys and the hexagonal wrench are in a bag affixed to the Control and Interface Cabinet door. The bag contains:

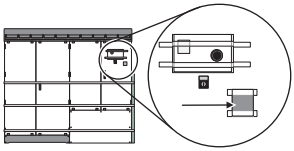
- 2 keys for the Stop/Start switch below the display
- 2 keys for the Sunny Central doors
- 1 hexagonal wrench



Removing the keys

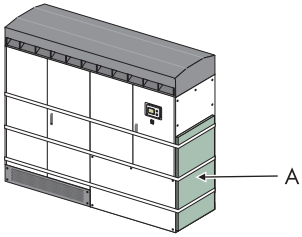
1. Remove the bag with the keys from the Sunny Central.
2. Keep the keys in a safe place.

You need the keys to open the Sunny Central doors and to start or stop the Sunny Central. You need the hexagon (allen) key for loosening and attaching the enclosure's screw fitting.



6.2 Removing the filter plate from the outer wall of the Sunny Central

The filter plate (A) is attached with straps to the side of the Sunny Central. You have to remove the straps to open the Sunny Central.



NOTICE

The straps are under tension and spring back when removed.

Injury due to straps springing back will result.

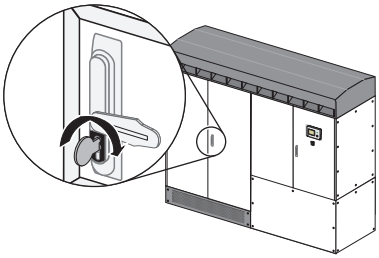
- Wear personal protective equipment.
- Keep a safe distance from the straps.

1. Hold the filter plate so that it cannot fall over.
2. Cut through the straps with a knife and remove them.
3. Put the filter plates aside.

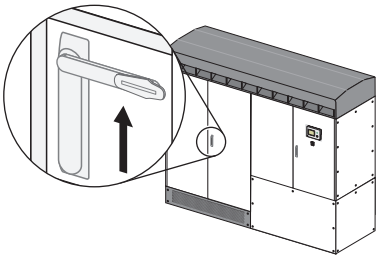
6.3 Removing the power unit packaging

The power units are located in the Power Cabinet. You have to unpack the power units before commissioning of the Sunny Central.

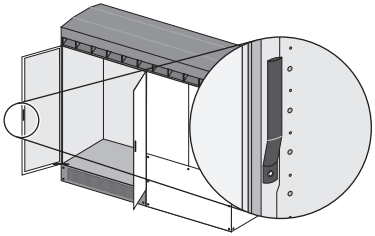
1. Unlock the door of the Power Cabinet.



2. Pull the handle of the Power Cabinet upwards and turn it to the right.



3. Open the right door of the Power Cabinet.
4. Inside of the left door is a handle. Turn the handle by 180 ° to the top left.
   ☑ The door is released.
5. Open the left door of the Power Cabinet.



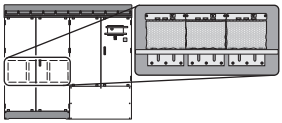
NOTICE

Touching the components can result in electrostatic discharges.

Damage to the components will result.

Ground yourself by touching a grounded surface, before touching the components.

6. Remove the adhesive strips.
7. Remove the foil completely.
8. Check the Power Cabinet for packaging rests and remove them.



☑ The power unit packaging has been removed.

6.4 Removing the protective film of the system control board

The system control board of the Sunny Central can be found in the Control and Interface Cabinet. You have to remove the protective film above the system control board before commissioning the Sunny Central.

1. Open the doors of the Control and Interface Cabinet.

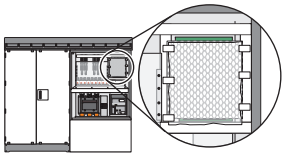
NOTICE

Electrostatic discharge when touching the components.

Damage to the components will result.

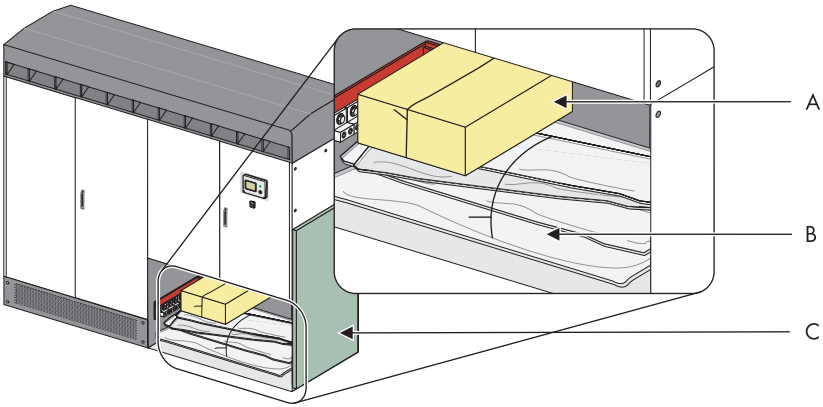
- Ground yourself by touching a grounded surface before touching the components.

2. Remove the adhesive strips at the protective film.
3. Remove the foil completely.
4. Check the Control and Interface Cabinet for packaging remains and remove them.
5. Close the doors of the Control and Interface Cabinet.



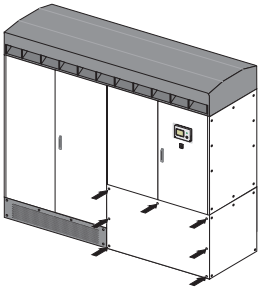
6.5 Unpacking the plinth plate for Control Cabinet and air baffle

The air baffle is made up of two parts, a filter plate and a middle wall. The air baffle has been removed for the transport. The filter plate is attached to the side on the outside of the enclosure of the Sunny Central. The middle wall of the air baffle and the plinth panels are in the lower part of the Interface Cabinet.

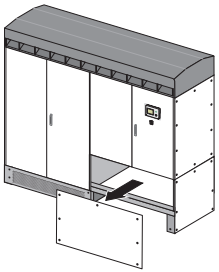


Position	Name
A	Accessories kit
B	Plinth panels for Control Cabinet, middle wall of the air baffle
C	Filter plate

1. Loosen the 7 screws at the right side of the plinth panel of the Control and Interface Cabinet (by turning them counterclockwise).

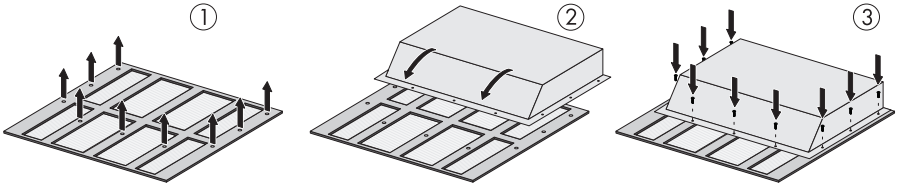


2. Pull the right plinth panel of the Control and Interface Cabinet forward.



3. Cut the cable ties attaching the accessories kit in the Sunny Central by a knife and remove them.
4. Remove the accessories kit from the lower part of the Control and Interface Cabinet.
5. Attach the plinth panel to the Control and Interface Cabinet.
6. Unpack the accessories kit.

6.5.1 Assembling the air baffle



1. Loosen and unpack the filter plate from the side of the Sunny Central.
2. Remove the middle wall of the air baffle and plinth panels from the Interface Cabinet.
3. Remove the screws from the filter plate.
4. Put the middle wall on the filter plate.
5. Attach the middle wall to the filter plate using the screws provided.

☑ The air baffle is assembled.

Installing the air baffle

The Sunny Central installation guide describes how to install the air baffle.

6.6 Removing the display packaging

NOTICE

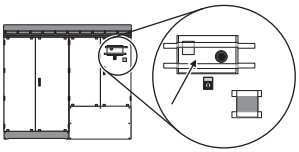
During mounting and installation of the Sunny Central, objects can scratch the surface of the display.

Damage to the display will result.

- Remove the display packaging only after all mounting and installation work on the Sunny Central is completed.

1. Remove the adhesive strips.
2. Pull off the lid toward the front.
3. Remove the protective foil from the display.

☑ The display packaging has been removed.



6.7 Further installation steps

All further installation work is described in the installation guide of the Sunny Central.

The installation guide is included in the delivery of the Sunny Central.

7 Contact

If you have technical problems with our products, contact the SMA Serviceline. We require the following information in order to provide you with the necessary assistance:

- Inverter type of the Sunny Central
- Serial number of the Sunny Central

SMA Solar Technology America, LLC
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